

WHAT IS CLAIMED IS:

1. A wireless communication system for providing a service in a time division duplexing (TDD) mode and a frequency division duplexing (FDD) mode, the system comprising:

a mobile station for, during call setup, transmitting a duplexing mode determination factor to a base station, setting a TDD mode or an FDD mode as a reverse mode set by the base station, and setting up a channel for the set reverse mode and a forward channel to perform communication; and

a base station for, during call setup, receiving the duplexing mode determination factor from the mobile station, setting a reverse mode to the TDD mode or the FDD mode using the received duplexing mode determination factor, and setting up a reverse channel for the set mode and a TDD mode for forward transmission to communicate with the mobile station.

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2. The wireless communication system of claim 1, wherein the mobile station generates the duplexing mode determination factor and reports the generated duplexing mode determination factor to the base station during predetermined periods in an active state.

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3. The wireless communication system of claim 2, wherein the base station determines whether switching of a reverse mode of the mobile station is required each time a duplexing mode determination factor is received from the mobile station in the active state, and controls switching of the set mode and assigns a new channel to the mobile station to perform communication when mode switching is required.

4. The wireless communication system of claim 1, wherein the duplexing mode determination factor includes one of power of a pilot signal received from the base station or geographical position information of the mobile

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station.

5 5. The wireless communication system of claim 1, wherein the duplexing mode determination factor includes power of a pilot signal received from the base station and geographical position information of the mobile station.

6. The wireless communication system of claim 4, wherein the duplexing mode determination factor is transmitted over a dedicated control channel for the set mode.

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7. The wireless communication system of claim 5, wherein the duplexing mode determination factor is transmitted over a dedicated control channel for the set mode.

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8. The wireless communication system of claim 1, wherein the base station assigns a frequency resource in a predetermined area among frequency resources available in the base station as reverse link resource for reverse transmission, and assigns the remaining available frequency resources to a forward link and a reverse link in a TDD mode.

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9. The wireless communication system of claim 8, wherein in the TDD mode, the forward link and the reverse link have a predetermined time period, and the period includes a guard time of a predetermined time between switching times of the forward link and the reverse link.

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10. The wireless communication system of claim 9, wherein channels for the forward link are assigned time slots beginning at a time slot in an area close to the guard time in order of mobile station nearest to the base station according to a position of the mobile station, detected from the duplexing mode determination factor.

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11. The wireless communication system of claim 9, wherein channels for the reverse link for the TDD mode are assigned time slots beginning at a time slot in an area close to the guard time in order of mobile station nearest
5 to the base station according to a position of the mobile station, detected from the duplexing mode determination factor.

12. A call control method in a base station for a wireless communication system, the base station being capable of communicating with a
10 mobile station in a time division duplexing (TDD) mode and a frequency division duplexing (FDD) mode, the method comprising the steps of:

during call assignment to the mobile station, analyzing a duplexing mode determination factor received from the mobile station to determine whether the mobile station is located in a close area with respect to the base station; and

15 assigning a TDD channel to a forward link and a reverse link if the mobile station is located in the close area, and assigning a TDD channel to the forward link and an FDD channel to the reverse link to perform communication if the mobile station is located in a remote area with respect to the base station..

20 13. The call control method of claim 12, wherein a frequency resource in a predetermined area among frequency resources available in the base station is assigned as a resource for a reverse link for reverse transmission, and the remaining available frequency resources are assigned to a forward link and a reverse link in a TDD mode.

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14. The call control method of claim 13, wherein in the TDD mode, the forward link and the reverse link have a predetermined time period, and the period includes a guard time of a predetermined time between switching times of the forward link and the reverse link.

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15. The call control method of claim 14, wherein channels for a forward link are assigned time slots beginning at a time slot in an area close to the guard time in order of mobile station nearest to the base station according to a position of the mobile station, detected from the duplexing mode determination
5 factor.

16. The call control method of claim 12, further comprising the steps of:

upon receiving a duplexing mode determination factor from the mobile
10 station during communication with the mobile station, checking again a position of the mobile station to determine whether the mobile station is located in the close area or the remote area; and

determining whether mode switching is required according to the checked position of the mobile station, and assigning a mode switching message
15 and a new channel to perform communication if mode switching is necessary.

17. A call control method in a mobile station for a mobile communication system providing a time division duplexing (TDD) mode and a frequency division duplexing (FDD) mode, the method comprising the steps of:

20 generating a duplexing mode determination factor and reporting the generated duplexing mode determination factor to a base station when assignment of a call is necessary;

upon receiving a mode for a reverse link from the base station, setting transmission and reception modes based on the received mode; and

25 sending a channel assignment request to the base station to perform communication with a channel assigned during channel assignment.

18. The call control method of claim 17, further comprising the steps of:

30 generating information obtained using the duplexing mode determination

factor and reporting the generated information to the base station during predetermined periods during communication; and

if a reverse mode switching request is received from the base station and a new channel is assigned by the base station, performing mode switching and
5 performing communication with the new channel.

19. The call control method of claim 18, wherein the information obtained using the duplexing mode determination factor, transmitted to the base station during the predetermined periods, is transmitted over a dedicated control
10 channel for the reverse mode.

20. The call control method of claim 17, wherein the information obtained using the duplexing mode determination factor comprises one of power of a pilot signal received from the base station or geographical position
15 information of the mobile station.

21. The call control method of claim 18, wherein the information obtained using the duplexing mode determination factor comprises one of power of a pilot signal received from the base station or geographical position
20 information of the mobile station.

22. The call control method of claim 17, wherein the information obtained using the duplexing mode determination factor comprises power of a pilot signal received from the base station and geographical position information
25 of the mobile station.

23. The call control method of claim 18, wherein the information obtained using the duplexing mode determination factor comprises power of a pilot signal received from the base station and geographical position information
30 of the mobile station.

24. A base station apparatus for separately providing a service in a time division duplexing (TDD) mode and a frequency division duplexing (FDD) mode according to a distance between the base station and a mobile station, comprising:

- 5 a coding processor for performing TDD encoding and TDD decoding, and performing FDD decoding;
- a diplexer for separating a reception signal at a frequency band assigned to the FDD mode from a signal at a frequency band assigned to the TDD mode;
- a radio processor for down-converting a signal at a frequency band
- 10 assigned to the FDD mode, and up- or down-converting a signal at a frequency band assigned to the TDD mode;
- a TDD transmission/reception separator for separating transmission and reception of a TDD duplexing signal between the coding processor and the radio processor; and
- 15 a controller for controlling the TDD transmission/reception separator, the coding processor and the radio processor, and during call assignment to the mobile station, determining a reverse transmission mode according to a duplexing mode determination factor received from the mobile station and setting up a channel for the determined reverse mode and a forward channel.

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25. A mobile station apparatus for a mobile communication system separately providing a service in a time division duplexing (TDD) mode and a frequency division duplexing (FDD) mode according to a distance between a base station and the mobile station, comprising:

- 25 a coding processor for performing TDD encoding and TDD decoding, and performing FDD encoding;
- a diplexer for separating a reception signal at a frequency band assigned to the FDD mode from a signal at a frequency band assigned to the TDD mode;
- a radio processor for up-converting a signal at a frequency band assigned
- 30 to the FDD mode, and up- or down-converting a signal at a frequency band

assigned to the TDD mode;

a TDD transmission/reception separator for separating transmission and reception of a TDD signal between the coding processor and the radio processor; and

- 5 a controller for controlling the TDD transmission/reception separator, the coding processor and the radio processor, and during call assignment, generating information obtained using a duplexing mode determination factor, delivering the generated information to the base station, and controlling communication using a channel assigned for a mode set by the base station.

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